REMARKS

This amendment is in response to the final Official Action dated October 1, 2008. Claims 3, 17-18, 22, and 25-26 have been amended, claims 1-2, 6, 10-16, 19-21, and 24 have been canceled without prejudice or disclaimer, and no claims have been added; as such, claims 3-5, 7-9, 17-18, 22-23, and 25-29 are now pending in this application. Claims 3, 7, 17, 18, 22 and 23 are independent claims. Reconsideration and allowance is requested in view of the claim amendments and the following remarks. In the amendment, claims 3, 17-18, 22, and 25-26 have been amended to clarify the features previously recited and to correct for minor informalities. Support for the new claims can be found in paragraph [0167] of the specification. No new matter has been added by this Amendment.

Specification

The disclosure is objected to because of following minor informalities:

On page 22, line 9, the use of "is" is singular and should be replaced with "are." Appropriate correction has been made.

Claim 17, line 17 recites the phrase "and a color of a dot on said bitmap data and a color of a dot on said bitmap data." The repeated phrase has been deleted.

Claim 18, line the phrase "A method for outputting comprising" has been changed to "A method for outputting bitmap data comprising."

Double Patenting

Claims 7-9 and 27 are rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, and 7 of co-pending Application No. 10/521355.

Applicant does not concede the propriety of these grounds of rejection, and asks that the requirement for a terminal disclaimer be held in abeyance pending the indication of allowable subject matter, so that Applicant can give an assessment at that time of the differences between what is claimed and allowed herein vis-à-vis the '355 document.

Claim Rejections – 35 U.S.C. 112

Claims 3-5, 17, 22, 25, and 26 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. More precisely, The Office Action states it is unclear whether coordinate calculation is obtained from vector data, bitmap data or a combination there of as well as how the "certain calculation" works since the discloser suggests the same calculation is used on different data sets.

Paragraph [0167] indicates the: *The term "certain calculation" would mean a calculation for executing a certain transformation on the bitmap data acquired by the bitmap data acquisition unit 103. By performing a certain calculation on "bitmap data before transformation," i.e., bitmap data that has not undergone a certain transformation, "bitmap data after transformation," i.e., bitmap data that has undergone the certain transformation is created. When coordinate information of the bitmap data before transformation is handed over to the function of this certain calculation, coordinate information of the bitmap data after transformation is obtained. Using this function, the way in which bitmap data is transformed can be altered. Assuming that with the help of the function (f) coordinate information (x, y) of the bitmap data before transformation is altered to coordinate information (X, Y) of the bitmap data after transformation, the function (f) is described as (X, Y)=f(x, y). The coordinate information is provided for specifying a position on bitmap data, and can be composed of coordinate values of two dimensions, for example. Data configuration of the coordinate information is irrelevant. In this manner, using the function of a certain calculation as described above enables coordinate information within bitmap data before transformation to change into coordinate information after transformation, and thereby, bitmap data after transformation is produced.*

As can be seen, the coordinate information is obtained form the bitmap data. This paragraph also shows how the "certain calculation" works on different data sets. Again, the predetermined calculation is determined by the user's needs and can be employed on different sets of data. Thus, this rejection should be withdrawn.

Claim Rejections – 35 U.S.C. 103

Claims 3, 17, 22, 25, and 26 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishida et al (US 6,232,978, hereinafter referred to as "Ishida '978") in view of Okazaki et al (US 4,736,399, hereinafter referred to as "Okazaki '399"). Applicant respectfully traverses this rejection.

Claim 3 recites: *[a]n output apparatus for transforming and outputting bitmap data comprising:*

a bitmap data storage unit for storing bitmap data before transformation;

a vectorization unit for producing first vector data by vectorizing at least one part of said bitmap data;

a data production unit for producing bitmap data after transformation based on an inverse function of a certain calculation, said bitmap data before transformation, and said first vector data; and

an output unit for outputting said bitmap data after transformation produced by said data production unit, said data production unit comprising:

an inverse transformation unit for producing second coordinate information by inversely transforming first coordinate information that specifies a target dot to be processed, using said inverse function of said certain calculation;

a color determination unit for determining a color of a position, if the first vector data is in a passing relationship with a dot represented by the second coordinate information, the color of the position specified by the second coordinate information being determined based on the position specified by said second coordinate information, said first vector data produced by said vectorization unit and a color of a dot on said bitmap data, and then setting up said color determined thereby for said target dot specified by said first coordinate information; and

a control unit for controlling so that said second coordinate information production by said inverse transformation unit and said dot color determination by said color determination unit can be performed on all dots on bitmap data to be outputted.

These claimed features are neither disclosed nor suggested by Ishida '978. Ishida '978 discloses an image processing apparatus (col. 1, lines 9-13) for obtaining a high-quality zoomed image using contour information and a control unit for controlling the zoom ration (FIG. 1, element 17). An outline smoothing and zooming unit smoothes and zooms the image and this data are converted to a binary image. In essence, the zoomed images are expressed as vector that can be reduced and enlarged without losing image quality.

Ishida '978 does not disclose or even suggest a bitmap storage unit, a vectorization unit, or an inverse transformation unit, let alone the features described therein. The Office Action indicates that these claimed features are disclosed in col. 14, lines 41-45. However, this is not the case. The cited sections relate to generating vector data that has already undergone smoothing and zooming processing and are then outputted to the binary image reproduction unit.

Moreover, Ishida '978 discloses that **a bitmap data after transformation (high-quality image in the raster-scan format) is obtained directly from contour vectors** (Col. 11, lines 59-

63) that are extracted from a bitmap data before transformation (low-quality image) (Col. 1, lines 23-26, Col. 11, lines 48-58). Ishida '978 states that on the basis of the outline vector data obtained by the outline extraction unit 12, the binary image reproduction unit 14 outputs, in a raster-scan format, a binary image obtained by filling the region bounded by the vector figure expressed by the outline vector data (col. 13, lines 44-49). Therefore, Ishida '978 does not use directly a bitmap data before transformation (low-quality) to determine a color of the position and to obtain a bitmap data after transformation (high-quality image). Claim 3, in contrast, requires producing bitmap data after transformation based on ... the bitmap data before transformation.

The Office Action goes on to admit that Ishida '978 does not disclose or even suggest producing a bitmap data after transformation based on an inverse function; producing a second coordinate based on information that specifies a target dot to be processed suing the inverse function of the certain calculation; a color determination unit for determining a color of a position specified by the second coordinate information, based on the first vector data produced by the vectorization unit and a color of a dot on the bitmap data, and then setting up color determined thereby for the target dot specified by the first coordinate information; and a control unit for controlling so that the second coordinate information production by the inverse transformation unit and the dot color determination by the color determination unit can be performed on all dots on bitmap data to be outputted, yet alleges that Okazaki '399 does.

Okazaki '399 does not remedy the deficiencies of Ishida '978, as the various features recited above are also absent from Okazaki '399. For example, Applicant's claimed features of "*a bitmap data storage unit for storing bitmap data before transformation*" and "*a data production unit for producing bitmap data after transformation based on an inverse function of a certain calculation, said bitmap data before transformation, and said first vector data,*" are neither disclosed or suggested by Okazaki '399.

Okazaki '399 is silent about a color determination unit for determining a color of a position, if the first vector data is in a passing relationship with a dot represented by the second coordinate information, the color of the position specified by the second coordinate information

being determined based on the position specified by said second coordinate information, said first vector data produced by said vectorization unit and a color of a dot on said bitmap data, and then setting up said color determined thereby for said target dot specified by said first coordinate information as amended in claim 3.

The Office Action states that in Okazaki '399, the color is represented as an intensity value (col. 6, lines 30-67). Applicant notes that an X-Ray imaging system does produce intensity values but displays those values in monochrome. Colors cannot be produced from an X-Ray imaging device.

Since even a combination of the relied upon references would still fail to yield the claimed invention, Applicant submits that a prima facie case of obviousness for claim 3 has not been presented. Applicant also notes that the offered combination appears to be a failed attempt to reconstruct the claimed invention in hindsight, as there is no basis to combine the zooming and smoothing device of Ishida '978 with the X-Ray device of Okazaki '399.

For the reasons stated above, claims 17, and 22 also overcome Ishida '978 in view of Okazaki '399 (although claims 1, 17, and 22 should be interpreted solely based upon the limitations set forth therein). Furthermore, at least for the reason disclosed above, claims 25-26 overcome the combination of Ishida '978 and Okazaki '399 because they depend on independent claim 3.

Accordingly, Applicant respectfully requests that the rejection of the claims under 35 U.S.C. § 103(a) be withdrawn.

Claims 7-9, 18, 23, and 27-29 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishida '978 in view of Karidi et al (US 2003/0123094, hereinafter referred to as "Karidi '094"). Applicant respectfully traverses this rejection.

Claim 7 recites: *[a]n output apparatus comprising:*

a bitmap data storage unit for storing bitmap data before transformation;

a bitmap data acquisition unit for acquiring bitmap data from said bitmap data storage unit;

a transformation rule retention unit for retaining at least one bitmap data transformation rule that is composed of a pair of information on certain part of said bitmap data and information indicating vector data that forms an image after transformation of said certain part;

a data transformation unit for transforming part of said bitmap data according to said rule, checking whether or not the information on certain part of bitmap data obtained by the bitmap data acquisition unit matches the information on certain part of bitmap data retained by the rule retention unit; and, if matched

replacing the information on certain part of bitmap data obtained by the bitmap data acquisition unit with a pair of information indicating vector data having an image resulting from the transformation of the certain part; and

an output unit for outputting data that is produced based on transformation results from said data transformation unit and processing results from said jaggy elimination processing unit.

These claimed features are neither disclosed nor suggested by Ishida '978. In the current application, the bitmap data is already prepared and stored in the transformation rule retention unit before transformation. (Embodiment 2, Fig. 12). In contrast, Ishida '978 does not teach that the bitmap data is prepared and stored in the transformation rule retention unit before transformation. Further, the portions of Ishida '978 cited in the Office Action are related to Figs. 10 and 11. Fig. 10 of Ishida '978 illustrates the scanning of the raster-scan binary image data outputted by the binary image acquisition unit 1, as well as the scanning of the raster-scan binary image data which enters the outline extraction unit 2. (Fig. 10, Col. 2 lines 1-4). Fig. 11 of Ishida '978illustrates an example of extraction of contour edge vectors between a pixel of interest and the pixels neighboring. (Fig. 11, Col. 2, lines 16-18). Accordingly, Fig. 10 is not related to a "transformation rule" of before, and Fig.

11 is not related to a "transformation rule" of after. Instead of using the existing "transformation rule," Ishida '978 discloses extracting means for extracting contour vectors of an image from a binary image each time.

The Office Action goes on to admit that Ishida '978 does not disclose or even suggest a transformation rule having a pair of information on certain part of the bitmap, the transforming comprising checking whether or not the information on certain part of the bitmap data obtained by the bitmap data acquisition unit matches the information on certain part of bitmap data retained by the rules retention unit; and if matched, replacing the information on certain part of bitmap data obtained by the bitmap data acquisition unit with a pair of information indicating vector data having an image resulting form the transformation of the certain part, yet alleges Karidi '094 does.

Nevertheless, Karidi '094 does not remedy the deficiencies of Ishida '978, as the various features recited above are also absent from Okazaki '399. For example, Applicant's claimed features of "*a bitmap data storage unit for storing bitmap data before transformation*" and "*a data transformation unit for transforming part of said bitmap data according to said rule, checking whether or not the information on certain part of bitmap data obtained by the bitmap data acquisition unit matches the information on certain part of bitmap data retained by the rule retention unit,*" are neither disclosed or suggested by Okazaki '399.

Karidi '094 discloses a method and apparatus for producing text images with improved smoothness in horizontal, vertical and slanted edges and for hole mending and dot removal. In essence, Karidi '094 provides a means for smoothing the jagged outline of reconstructed text. Applicant's claimed invention improves on the conventional approach of smoothing jaggies of Karidi '094. With regard to the fine details of a design, those portions from which a contour image can hardly be gained fail to reappear on a reproduced bitmap image that underwent the size-reduction process. In other words, a reproduced image that underwent the contour filling may give an impression differing from the original image, like in the case of Karidi '094. In contrast, Applicant's claimed invention attempts to have an arrangement where bitmap data has jaggy-less

smoothed outlines can be obtained as the bitmap data after transformation, thereby reducing the impression that the reproduced image is differs from the original.

Since even a combination of the relied upon references would still fail to yield the claimed invention, Applicant submits that a prima facie case of obviousness for claim 7 has not been presented. Applicant also notes that the offered combination appears to be a failed attempt to reconstruct the claimed invention in hindsight, as there is no basis to combine zooming and smoothing device of Ishida '978 with a jaggy smoothing technique of Karidi '094.

For the reasons stated above, claims 18 and 23 also overcome Ishida '978 in view of Karidi '094 (although claims 1, 18 and 23 should be interpreted solely based upon the limitations set forth therein). Furthermore, at least for the reason disclosed above, claims 8-9, 23, and 27-29 overcome the combination of Ishida '978 in view of Karidi '094 because they depend on independent claims 7, 18, and 23.

Accordingly, Applicant respectfully requests that the rejection of the claims under 35 U.S.C. § 103(a) be withdrawn.

In view of the above amendment and remarks, applicant believes the pending application is in condition for allowance.

This response is believed to be a complete response to the Office Action. However, Applicant reserves the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicant expressly does not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 CFR 1.104(d)(2) and MPEP § 2144.03.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. IRD-0004 from which the undersigned is authorized to draw.

Dated: November 17, 2008

Respectfully submitted,

By _____

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